UNITED STATES DISTRICT COURT
DISTRICT OF SOUTH DAKOTA
NORTHERN DIVISION

SIOUX RURAL WATER SYSTEM, INC., a Nonprofit Corporation,

Plaintiff,

vs.

No. 1:15-CV-01023-CBK

CITY OF WATERTOWN, a South Dakota Municipality, and WATERTOWN MUNICIPAL UTILITIES, an Agency of the City of Watertown,

Defendants.

DEPOSITION OF DARIN SCHRIEVER

APPEARANCES:

For the Plaintiff: JEFFREY A. COLE
ZIMMER, DUNCAN & COLE
5000 South Broadland Ln., Ste 107
Sioux Falls, SD 57108

For the Defendant Watertown Municipal Utilities: JACK H. HIEB
RICHARDSON, WYLY, WISE, SAUCK & HIEB, L.L.P.
P.O. Box 1030
Aberdeen, SD 57402-1030

For the Witness: GREGORY H. WHEELER
BOYCE LAW FIRM
P.O. Box 5015
Sioux Falls, SD 57117

ALSO PRESENT: STEVE LEHNER
HEATH THOMPSON

June 29, 2016
Sioux Falls, South Dakota

INDEX

INDEX OF EXAMINATIONS

INDEX OF EXHIBITS

BE IT REMEMBERED that on Thursday, the 29th day of June 2016 at 9:13 a.m., at the offices of DGR, 2909 East 57th Street, Suite 101, Sioux Falls, South Dakota, before STEPHANIE L. MOEN, RPR, a Freelance Court Reporter and Notary Public in and for the state of South Dakota, appeared DARIN SCHRIEVER, the witness herein:

WHEREUPON, the following proceedings were had, to-wit:

* * * * *

(Exhibit No. 4 marked for identification. Mr. Thompson is not now present.)

DARIN SCHRIEVER called as a witness, having been first duly sworn testified as follows:

EXAMINATION BY MR. HIEB:

Q Can you state your name, please.
A Darin Schriever.
Q Darin, my name is Jack Hieb, and as I indicated off the record, I represent Watertown Municipal Utilities. Have you ever had your deposition taken prior to today?
A Yes.
Q On how many occasions?
A One.
Q All right. Was that involving litigation that related to - was that as an expert or as a - as a fact witness, or do you know?

A I don't know.
Q Who was involved in the litigation?
A It was a contractor versus a utility owner, and we were engineers for the owner.
Q So DGR wasn't a party to the lawsuit.
A No.
Q A couple of things I want to give you, a couple of ground rules I want to give you before we get started. I'm going to ask you verbal questions; I'll need verbal responses. We often communicate with nods of the head, and while that works in a conversation between us, it makes it difficult for the court reporter to take it down, okay?
A Yep.
Q All right. Second, if you can wait for me to finish asking my question, I'll try to wait for you to finish giving your answer. That way we are not talking at the same time. As you can imagine, it is very difficult for her to take down two voices at the same time, okay?
A Okay.
Q Finally, if I ask you a question you don't understand or if I use some word that doesn't make any sense to you in the context in which I use it, just don't answer the question; tell me "I don't understand;" I'll be happy to rephrase it, okay?
A Yep.

EXHIBIT
tabbies 5

that?

MR. COLE: Object to form.

Q (By Mr. Hieb) Do you understand water usage for fire suppression purposes?

A Yes.

Q All right. So understanding that, does your modeling factor in the potential need for that?

A Well, I believe our report was clear in the - in stating that Sioux does not provide fire protection in their water service.

Q Right, that doesn't answer my question. And the one thing I'll tell you is: I've read your report cover to cover. Your report isn't testimony, so when I'm asking you these questions, it's not that I'm trying to be rude or that I haven't taken the trouble to read it; I need testimony from you.

I realize that they don't provide fire protection, but as part of the analysis that you're doing for them, you're being asked to determine: can they supply the water needs of these potential new customers, correct?

A Correct.

Q And the water needs, as that term is defined I'm assuming, does not include fire protection, right?

A That's correct.

Q So you're talking only about domestic water supply for

consumption or other related uses on a monthly basis.

A That's right.

Q I think I asked you this before, but you've circled these areas on Sheets 1 and 10 of Appendix E that identify the areas you were asked to study, and they show with gray dots the existing customers of Sioux. And then you were provided a list of potential new customers for Sioux that's shown in the memo here on the first page of Appendix E, right?

A Right.

Q What was your ultimate conclusion about Sioux's ability to adequately supply the water needs of the customers listed on the first page of the memo that's part of Appendix E?

A From a distribution standpoint, Sioux has the ability to serve those customers.

Q Okay. And from a capacity standpoint - would that be the other term to use or would there be a better term?

A From a source capacity standpoint?

Q Sure, I'll use your term "source capacity standpoint." Do they have the ability to serve those customers?

A Our conclusion was that they could serve up to 30 to 35 additional customers in those areas.

Q And you reached that conclusion by looking at their current source capacity and how much excess source capacity existed?

A Correct.

Q And how was it that you were able to conclude from that data

that they could serve an additional 30 to 35 customers in those areas under present conditions?

A That was based upon several factors: their treatment capacity, their storage capacity, the demands of the existing system.

Q Anything else?

A Not that I recall.

Q All right. So when you state - when you stated earlier that you believe they have the distribution capacity to serve those potential new customers listed on the first page of the memo that's part of Appendix E to Exhibit 4, that means they have big enough pipes that they could deliver water to those customers adequately, correct?

A It's a combination of piping and pumping facilities, storage.

Q Big enough pipes, enough storage, and enough pumping capacity.

A Correct.

Q All right. What, evidently, they're short on, in order to serve all of those customers' needs based upon your data, is source capacity.

MR. COLE: Object to form.

You can go ahead and answer.

A To serve more than the 30 to 35 additional users, we believe that Sioux needs additional source capacity which means

wells and treatment capacity.

Q (By Mr. Hieb) And in laymen's terms, they don't have enough water to serve all of the customers listed on the first page of memo - of the memo that's part of Appendix E.

MR. COLE: Object to form.

Go ahead and answer.

A We believe they currently don't have adequate facilities in place to serve all of those customers.

Q (By Mr. Hieb) Okay. And when you say they don't have adequate facilities, they can't treat enough water at the treatment plant that would provide water to the customers listed in this memo under current conditions.

MR. COLE: Object to form.

You can go ahead and answer.

A You guys are confusing me.

Q (By Mr. Hieb) And I don't want to confuse you, so tell me what - I'm trying to - I'm trying to make sure that I understand what your testimony is, and I think I do, but —

MR. COLE: Excuse me. Darin, I'm just objecting to the form of the question; that's all. That's all I'm doing. So you can go ahead and answer those questions, and I apologize if my objections have distracted you from what the questions were, both to counsel and yourself.

A So to serve all of the customers listed on the first page of the memo, —

DGR ENGINEERING

WATERTOWN SERVICE AREA REPORT

PREPARED FOR

SIOUX RURAL WATER SYSTEM

February 2016

Schneer
Stephanie L. Moen
Ex. No. 4
Date: 29 June 2016

DGR Project No. 802810

therefore, the lowest residual pressures expected during a peak water usage period. The results are identified as instantaneous peak demand flows and residual pressures. The instantaneous peak demand low pressures are theoretical only and may have never been experienced by any customer.

The software can also be used to calculate the estimated average pressures and flows for a peak day situation. These results are identified as residual pressures and flows for a 20 hour period. In addition to providing the calculated average residual pressures and flows for the distribution system, the average 20 hour period is also useful in estimating the effects upon tank levels and pumping capabilities. A 20 hour period (as opposed to a 24 hour period) is used to provide some margin for the possibility of peak day demands being higher than projected.

The hydraulic model was updated for Sioux Rural Water in early 2013 as part of the PER agreement, and the model is based upon water use in the year 2012. 2012 was notably the highest recent usage period for many systems in the region, including Sioux Rural Water. 2012 had high peak day usage and high sales volumes for the year. When performing hydraulic modeling for rural water systems, the factors included in the method of calculating the instantaneous peak demands are as important as the actual water use assigned to customers. The factors are based upon actual usage patterns of the water system and also upon long-term experience in modeling rural water systems.

WATERTOWN AREA REVIEW

A hydraulic modeling effort was performed in order to review the condition of the existing distribution system and the effect of the proposed improvements, as well as the effect upon the system with additional customers added. Two areas were reviewed specifically. The first area is generally described as the "West Side" and is the area between Lake Kampeska and Pelican Lake in Lake Township and Pelican Township. The second area considered is immediately east of Interstate 29, generally along Highway 212, or more generally described as the "East Side". The results of the modeling effort are summarized in a memo dated January 25, 2016 and is included in Appendix E.

When considering additional customers in these areas for hydraulic modeling purposes, it was assumed that the annual average monthly water use for additional customers would be 5,500 gallons per month. This is considered a very conservative approach as the actual annual average of equivalent customers in the area is 4,700 gallons per month for year 2012. For revenue projection purposes, it would be conservative to use a number less than 4,700 gallons per month because 2012 was a high sales year (about 14% higher than adjoining years). It is recommended that 4,100 gallons per month be used for an annual average for revenue projection purposes.

West Side Review

Sheets 1-3 of the memo show the existing system under instantaneous peak demand conditions. The results indicate that there can be low residual pressures experienced in the area. This is one of the primary reasons why the system intends to make improvements to the area with the proposed eight miles of 8" pipeline as previously discussed.

Sheets 4-6 display the anticipated residual pressures and flows under instantaneous peak demand conditions after the proposed improvements project is complete. This demonstrates that the improvements project will be effective in providing additional residual pressure to the area.

Sheets 7-9 indicate the residual pressures and flows for instantaneous peak demand conditions after several additional customers are added in the area and two additional minor water main improvements are complete. The additional water customers are listed on the first page of the memo in Appendix E, and they generally include the Pelican View Estates, Kaks Addition and a few small businesses in the area. The modeling results indicate that with the additional customers added to the system, acceptable residual pressures and flows can be provided to the area.

For each of the three scenarios presented above, the average 20 hour pressures and flows were also calculated. These results are displayed on Sheets 18-26 and indicate that the system has adequate pumping and distribution capacity to meet peak day demands of existing and additional customers.

East Side Review

The hydraulics memo addresses the distribution area on the east side of Watertown beginning with Sheet 10. Sheets 10 and 11 show the instantaneous peak demand conditions and the resulting pressures and flows for the existing system before the improvements project is completed.

Sheets 12 and 13 show the instantaneous peak demand conditions with additional customers added in the area before the improvements project is complete. The additional customers on the east side of Watertown are listed on Page 1 of the memo and generally include several small businesses in the area. The modeling results indicate that the identified additional customers can be adequately served by the existing water system.

Sheets 14 and 15 show the instantaneous peak demand conditions for the existing system with the proposed improvements project completed.

Sheets 16 and 17 show the instantaneous peak demand results with the new customers added, with minor improvements and the proposed improvements project is complete. Again, the results indicate that the additional customers can be added to the system while providing adequate pressures and flows to the system.

The average flows and pressures for a 20 hour period for the east side of Watertown are shown on Sheets 27-34. The results indicate that the system has adequate pumping and distribution capacity to meet peak day demands of existing and additional customers.

Generally speaking, the Sioux Rural Water distribution system can easily accommodate additional customers on the east side because of the previous investment made in several miles of 6-inch pipe along the east side of Interstate 90.

SIOUX WATER TREATMENT PLANT REVIEW

Sioux Rural Water System operates two water treatment plants. The south water treatment plant is called the Castlewood Water Treatment Plant and generally serves the southern and western parts of the system. The north water treatment plant is called the Sioux Water Treatment Plant and it generally serves the northern and northeastern parts of the system.

When considering the production needs of the Sioux Water Treatment Plant, more recent data was considered than that which was available at the time the original PER was completed. The PER generally contained data from 2009 to mid-2012. More recent data includes data through September 2015. Significant effort has been made over the last couple of years to control water loss, which has resulted in more water being available for delivery. Peak usage days in the spring of 2014 were similar to the peak usage days in 2012; however, the 3-day and 5-day moving averages were higher in the spring of 2014 than they were in 2012. Therefore the spring of 2014 data was used in reviewing the Sioux Water Treatment Plant capacity.

The Sioux Water Treatment Plant serves the area surrounding Watertown. The water treatment plant consists of granular media filters for iron and manganese reduction. The hydraulic capacity of the water treatment plant is 600 gallons per minute (gpm). The current raw water quality and the current effectiveness of the treatment process limit the plant capacity. The plant can produce 400 gpm with consistent good finished water quality. The plant can be operated at 450 gpm with only slight increases in finished water manganese levels. The effects of higher manganese levels are aesthetic only and are generally not problematic during high usage periods. Operated at 450 gpm over a 22 hour period, the daily treatment capacity of the Sioux Water Treatment Plant is 594,000 gallons per day. A 20 to 22 hour day is commonly used when evaluating water treatment plant capacity; this allows two to four hours per day to backwash filters and provide miscellaneous maintenance as required.

Design guidelines recommend that a water system provide finished water storage equal to or greater than an average day water demand. Recent average day demands from the Sioux WTP have been approximately 350,000 gallons per day. Total storage in the Sioux WTP service area, including reservoirs at the WTP and water towers in the distribution system, is 468,000 gallons. This exceeds the recommended amount and allows Sioux Rural Water to meet daily fluctuations in water demands and to meet multi-day high demand periods.

The 176 additional customers previously discussed in the hydraulic modeling effort represent an added water demand of approximately 32,500 gallons on an average day and approximately 93,000 gallons on a peak day. Given the current treatment capacity of 450 gpm, and given the available system storage, approximately 30-35 additional customers of the type described could be added to the system without exceeding source capacity. In order for more than 30-35 customers to be added, the source capacity would need to be increased.

Four primary alternatives can be considered for expanding source capacity for Sioux Rural Water: optimize and improve existing facilities, finding locations for wells with better water quality, adding filters and obtaining water supply from other entities. Each is discussed in more detail below.